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Growing and Marketing WOOL

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SUMMARY

1. Conditions in Minnesota are favorable to the production of good wool as an important secondary product in sheep raising.

2. The sheep grower must select sheep with a view to improvement in the quality and quantity of wool produced as well as to improvement in mutton form.

3. In judging wool on the sheep, its length, density, fineness of fiber, uniformity, and purity are the important factors to be observed.

4. The handling of sheep in such a way that they will produce a fleece that will be in good condition suitable for manufacture is an important item contributing toward the price that may be obtained for the wool.

5. The grower must know the fundamental principles involved in market classification and grading if he is to produce wool that he can sell to good advantage.

6. The grower should investigate the opportunities offered him to market his wool by the several plans available before deciding which plan to follow.

GROWING AND MARKETING WOOL

THE wool clip is an important source of income in sheep production. If given proper attention and care the crop of wool from a flock of ewes should help very materially in paying for their keep, leaving the lambs with only a moderate charge against them in addition to their feed. The climate of Minnesota and the feeds grown are conducive to the production of healthy sheep and to the production of a strong staple of wool of good length and reasonably fine quality.

SELECTING SHEEP FOR THE FARM FLOCK

Most sheep men in Minnesota make the production of lambs for market their first consideration, wool being a secondary item. This is true because climatic conditions in Minnesota and the feeds available are especially suitable to the successful growing and fattening of lambs for market. The primary factor to be considered in selecting and building up a farm flock, therefore, is mutton type. This does not mean, however, that the fleece may be neglected, for if it is, the flock will soon be producing a light shearing of poor wool that will sell at a low price. The production of the very finest quality of wool seems to run counter to the production of the best market lambs, yet by using good judgment in selecting breeding stock, a good quality, heavy shearing fleece can be had without handicapping in any way the production of the best kind of market lamb. In fact, a fairly dense fleece covering the entire body helps to preserve the health of the breeding animal and thereby contributes to lamb production.

In purchasing or selecting breeding stock it is usually necessary for the breeder to judge the character of the fleece on the live sheep. He must make allowance for the breed represented and the characteristic type of fleece for that breed, and for the length of time that has elapsed since the last shearing. In general, however, several factors can quite readily be noted in the fleece as it is growing on the sheep that are very good indications of both the quality and the quantity of wool the sheep will shear. These are length, density, quality, or fineness of fiber, uniformity, purity, and condition.

Length.—A long fleece is desirable in any breed of sheep altho the length will vary widely with the different breeds. Wool that is long enough to be used as combing wool will usually outsell short staple wool. Length also adds to the quantity of wool or weight of fleece. It seems, however, that extreme length is opposed to fineness of fiber and nothing would be gained by selecting for extreme length to the neglect of quality.

Density.—By the density of a fleece is meant the compactness. One can judge of the density of a fleece with some degree of accuracy by simply looking at it, but he can judge density much more accurately

by grasping a handful of wool on the side of the sheep. If the wool yields readily and he can practically close the hand as tho there is little or nothing in it, he may be sure that it is a loose, open, light shearing fleece; but if he gets a firm handful of solid, unyielding wool, that springs right back into place when he lets go of it, he may be sure of a dense, compact, heavy shearing fleece. As a rule, the greater the density of the fleece, the finer will be the quality and the more completely will the body be covered. Density is important, therefore, as an indication of both the quality and the quantity of wool the sheep will shear.

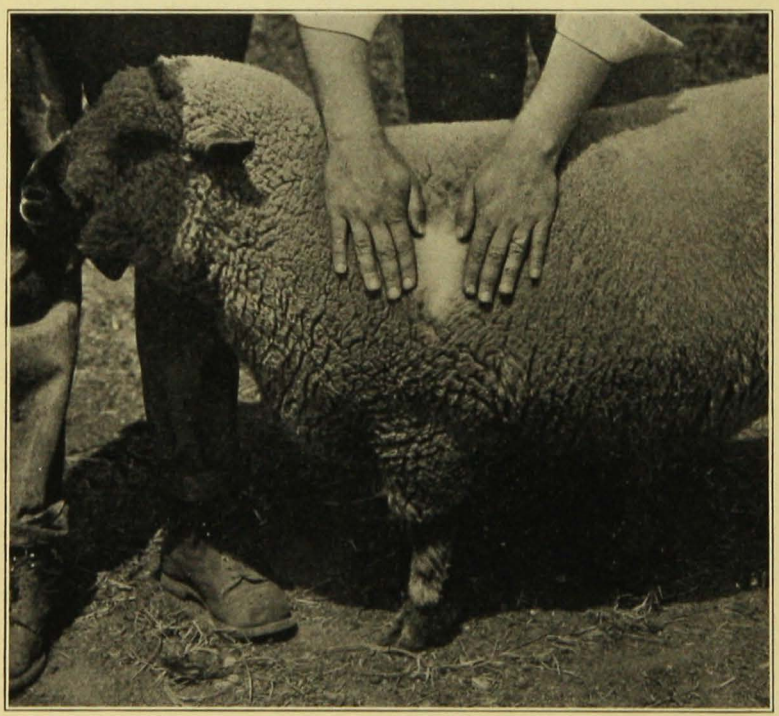

Fig. 1. It is possible by careful selection within any breed to produce a sheep that combines good mutton form with a good fleece.

Quality, or fineness of fiber.—The term quality has a variety of meanings when applied to wool. It is often used to summarize all the characteristics of a fleece, and the user refers to a fleece as of excellent, medium, or poor quality. Again, it is often used to indicate fineness of fiber only and that meaning is used here. A fleece that is fine in fiber is desirable because it is from such that the softest and highest priced cloth is made. Usually, the finer the fiber the greater will be the density of the fleece and the more uniformly will it be spread over the entire body. Fleeces composed of extremely fine fibers sell at the

highest price per pound on the scoured wool basis, if they are not too short. Extremely fine fleeces are likely to be short and to contain a large amount of yolk, or oil, and to shrink heavily when scoured. In selecting for fineness of fiber one must have in mind the characteristic fleece for the breed and remember that extreme fineness is likely to correlate with shortness of fiber and with inferior mutton form. Therefore, judgment must be used to determine the degree to which quality or fineness of fiber may be emphasized.

Uniformity.—There is a tendency for wool to vary widely in length, density, and fineness on different parts of the same sheep. Usually the wool on the neck and shoulders is finer than that on the thighs. A fleece will often be quite desirable on the shoulders and sides but open and coarse on the rump and thighs. Such a fleece will be light in weight and of low grade. In judging of the uniformity of a fleece it is necessary to examine it in at least three places—the shoulder, the side, and the thigh.

Purity.—Purity of fleece means freedom from black fibers, coarse hair, and dead fibers. These lower the value because they do not take the dyes that are ordinarily used in coloring woolen goods, so uniformly as do good wool fibers.

Condition.—The condition of a fleece at the time of shearing and marketing may affect the selling price even more than does the quality and quantity of wool. To be in proper condition a fleece must be uniform in strength of fiber, free from foreign matter and excessive cotting, or matting, and must contain just enough yolk, or oil, to make it soft and bright in color. A fleece that is seriously at fault in any of these requirements will be discounted when sold. It is therefore important to house, care for, and feed sheep in such a way that the fleeces will be in good condition when shearing time comes.

FEEDING FOR WOOL PRODUCTION

The general character of the fleece, as well as the shearing weight and the quality, is determined very largely by the breeding of the sheep and not to any great extent by feeding, except that good liberal feeding on well balanced rations is essential to the production of a heavy shearing fleece and strong healthy wool fibers. Maintaining a flock on scant pasture in summer and low-grade non-legume hay in winter is likely to result in a short growth of wool with weak and dead fibers in it. Wool is composed largely of protein and if a good fleece is to be produced the sheep must receive the necessary amount of protein in its ration. It is in protein that the rations commonly fed to sheep are most likely to be deficient. The most satisfactory and cheapest way to insure a sufficient protein supply is by feeding legume hays as roughage. All the clovers, alfalfa, and soybean hay are legumes.

EFFECT OF DIPPING

In order to be kept free from such external parasites as ticks, lice, and scab mites, sheep must be dipped in an insecticide solution at least once a year. The proper time for such dipping is in the spring, immediately after shearing. Both sheep and young lambs must be dipped and a second treatment should follow twelve or fourteen days after the first. Dipping at this time of year or even in the fall will not injure the fleece, but dipping just before shearing discolors the wool, takes the yolk out of it, and reduces the selling price.

SHEARING

The job of shearing sheep has been greatly simplified by the development of flexible shaft shearing machines. These machines are made in sizes ranging from a single-unit hand-power machine to large multiple-unit power-operated machines. The cost of a single-unit hand machine is so little that a farmer with only twenty to thirty sheep to shear can afford to buy one. Shearing a sheep is a rather strenuous job even for an experienced person, and may seem almost impossible to the beginner. Patience and experience, however, will soon accomplish results, and any farmer can easily learn to shear sheep successfully if he will carefully follow the instructions supplied by the manufacturer of the shearing machine. May is the most satisfactory month for shearing.

TYING AND PACKING THE FLEECE

In shearing, an effort should be made to keep the fleece together as much as possible. Before rolling it up, all dung locks should be removed. These locks of dirty wool are usually damp and if rolled up with the fleece will cause it to mildew and may reduce the selling price materially. To roll and tie a fleece place it with the cut surface down, then turn the sides in toward the center and begin rolling from the breech end. Roll the fleece quite tightly and tie it with medium weight four ply paper wool twine, using just enough twine to hold it together in good shape. Wool twine can usually be obtained from any agency that deals in wool.

Small amounts of wool, such as are usually obtained from the average sized farm flock, are shipped in large jute sacks that can be purchased from almost any firm that handles wool. They hold from 200 to 225 pounds each. When several sacks are to be filled, a wool sacking device such as that shown in Figure 5 should be provided, as it will simplify the work and make a much neater and smoother appearing job. Before filling, wool sacks should be turned wrong side out and shaken to free them from loose pieces of jute. If wool is stored on the farm for a time before it is sold or shipped, it should be sacked and then put in a clean, dry room.

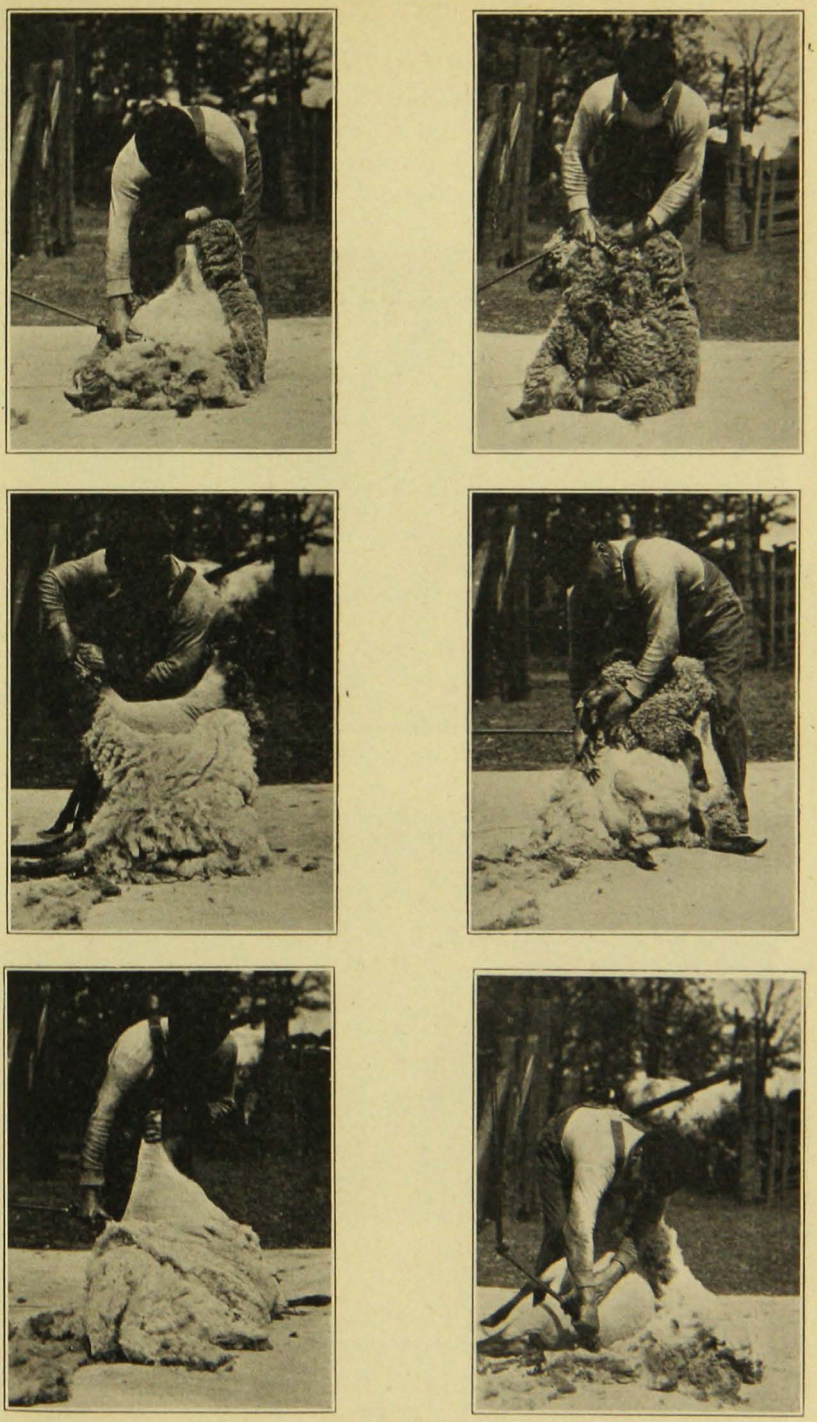

Fig. 2. The power shearing machine has almost completely replaced the hand shears.

MARKET CLASSES AND GRADES OF WOOL

There are so many different breeds and types of sheep, each with its own peculiarities as to fleece, that there are many degrees of length, strength of fiber, and quality in wool, resulting in a wide variation in the usefulness or value of the fleece for manufacture.

Fig. 3. Folding in and rolling the fleece preparatory to tying.

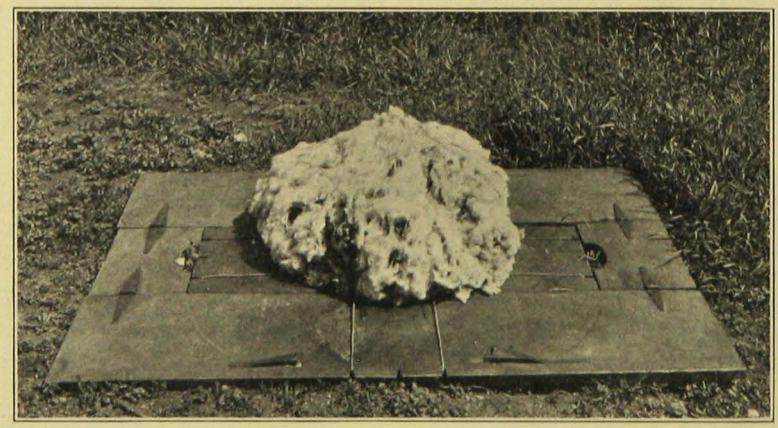

Fig. 4. A fleece properly rolled and ready for tying

The sorting, classifying, and grading of wool preparatory to its manufacture into cloth is an intricate process requiring a skilled, thoroly trained and experienced expert. It is not to be expected that the sheep grower will become an expert wool grader, but if he is to produce a fleece of high value and is to know when he is getting the price to

which he is entitled for his wool, he must have a clear understanding of the factors that determine the value of a fleece. A brief explanation of the commercial market classes and grades of wool, therefore, will be presented.

Fig. 5. Wool sack and device for filling.

Market Classes

As wool comes from the sheep it may all be classed into one or the other of two broad general market classes, namely, combing wool and clothing wool. "Combing wool," in Minnesota, is usually 2½ inches or longer in the staple. Wool of this length can be put through a combing process and spun into thread or yarn before being used in making cloth. From this class of wool are made the cloths called "worsteds." The generally accepted meaning of the term "clothing wool" has reference to its length. In most Minnesota wools it is less than 2½ inches long and is used in the manufacture of woolen goods in which the combing process of manufacture is not employed and the short fibers are not removed. Combing wool is long enough that it can be combed. In combing, short fibers are removed and the long fibers are made to lie parallel in preparation for spinning. Other things being equal, wool of combing length usually sells for a little more per pound

than wool of clothing length, when sold on a market that will pay according to the actual value of the wool. Thus, it should pay farmers to breed and feed their sheep in such a way as to produce combing wool.

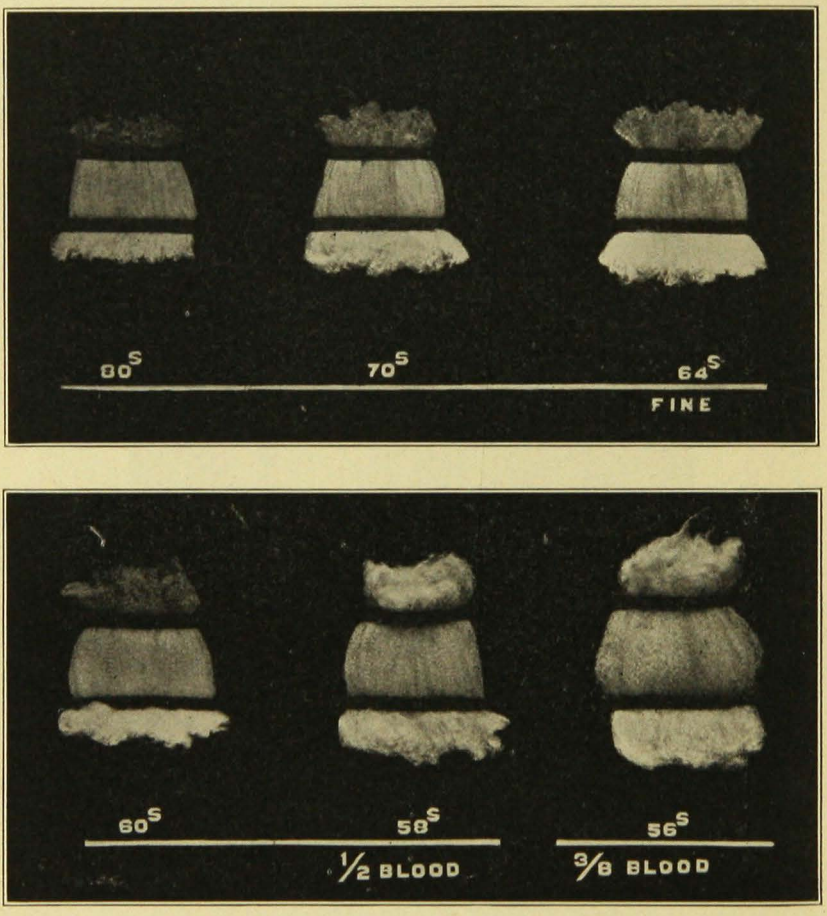

Fig. 6. Market Grades of Wool, 80's to 56's.

Market Grades

As distinguished from the basis used in classifying wool into two market classes according to the general type of goods that can be made from it, each class is further divided into several grades on the basis of the quality of the wool and of the cloth that can be made from it. These grades are designated by trade names that have become established through general usage. Unfortunately, the terms used do not signify clearly just what they mean. The several grades are (1) fine, (2) half blood, (3) three-eighths blood, (4) quarter blood, (5) low

quarter blood, (6) common and (7) braid. Any of these grades may apply to combing wool and the first five may apply to either combing or clothing wool.

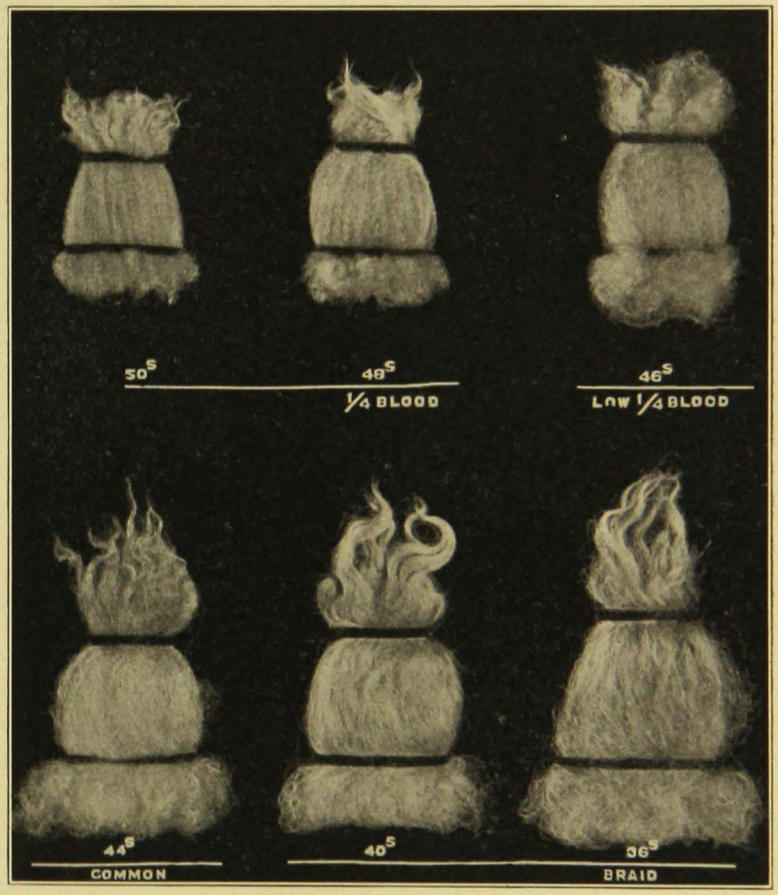

Fig. 7. Market Grades of Wool, 56's to 36's.

The terms half-blood, three-eighths blood, and quarter-blood were probably first used to distinguish wool according to the breeding of the sheep from which it came. During the period of rapid expansion in sheep breeding in the United States, from 1880 to 1900, a large percentage of the sheep in the country were produced by mating rams of mutton breeding to ewes of fine-wooled breeding. The first cross of this kind resulted in a half-blood fine-wooled sheep and the wool was characterized as half-blood wool. The second cross resulted in a quarter-blood fine-wooled sheep and the typical fleece from sheep of such breeding came to be known as a quarter-blood fleece. The terms

three-eighths and low-quarter-blood then came into use to designate grades a little finer and a little coarser, respectively, than typical quarter-blood fleeces. These have become standard grade names in the wool markets and are used entirely to designate differences in quality of wool regardless of the breeding of the sheep that produced the fleece. For example, a fleece may be graded as half-blood, three-eighths-blood, quarter-blood, or low-quarter-blood and yet be from a purebred sheep.

Rejects

Fleeces of wool that are in bad condition and will shrink heavily and probably be of poor quality when prepared for manufacture, are classed as rejects, and sell according to the effect upon their usefulness of whatever is the objectionable factor in them. Some of the conditions that will cause a fleece to be classed as a reject are: the presence of stained, dead, kempy, damaged, weak, chaffy, seedy, burry, or black fibers, and tying with objectionable twine, such as binder twine.

United States Official Grades

Old Designation	New Designations
Fine	80's, 70's, and 64's
Half-blood	60's and 58's
Three-eighths blood	56's
Quarter-blood	50's and 48's
Low-quarter-blood	46's
Common	44's
Braid	40's and 36's

In 1926 the above official standards for wool grades for the United States were adopted. The new designation is based upon the worsted system and corresponds closely to the English grades based upon the spinning count or number of hanks to the pound of top into which the wool is capable of being spun, each hank being 560 yards in length. Wool of 56's quality would spin 56x560 yards of yarn per pound of top. "Top" is a continuous untwisted strand of the longer wool fibers straightened by combing. After drawing and spinning it becomes worsted yard. In the United States, standard grades range from 80's to 36's.

Common Grouping, Classification, and Grades of Wool from Various Breeds of Sheep

Wool from the leading breeds of sheep in the United States may all be grouped, graded, and classified reasonably accurately as indicated in the following table:

Breed	Grade	Class
	Fine Wool	
American and Delaine Merino	Fine	Clothing or combing
Rambouillet	Fine and ½ blood	Clothing or combing
	Medium Wool	
Southdown	½ and ⅜ blood	Clothing or combing
Shropshire	⅜ and ¼ blood	Clothing or combing
Hampshire	⅜ and ¼ blood	Clothing or combing
Oxford	¼ and low ¼ blood	Combing
Dorset	⅜ and ¼ blood	Clothing or combing
Cheviot	¼ blood and low ¼ blood	Combing
	Long Wool	
Lincoln	Low ¼ blood, common or braid	Combing
Leicester	Low ¼ blood, common or braid	Combing
Cotswold	Low ¼ blood, common or braid	Combing

MARKETING WOOL

There are several methods by which wool may be sold, which may be classified into three general groups: (1) Selling direct to a woolen manufacturer or dealer, (2) consigning to a commission firm, and (3) consigning to a wool pool or co-operative marketing agency. In the past, a large part of the wool produced in Minnesota has been sold direct to dealers soon after shearing time. Usually these have been local dealers who depend on some other business as their principal source of income and buy wool largely as an accommodation to the few persons producing it in the locali y. After accumulating a supply of wool, these dealers either sell direct to the manufacturer or consign the wool to a commission firm located in a larger center, where more wool is handled. The advantage of selling to such a local dealer is principally that the producer can take his wool to town at any time and get the money for it at once. On the other hand, there is a tendency for such a dealer to offer a uniform price and the man who delivers the best wool sometimes fails to get as much for it as he should. Also, such a dealer must allow liberally for his own costs and profits in handling the wool. If one is located near a reliable woolen mill, even tho it is a small mill, he can often sell direct to the mill to very good advantage. In selling wool direct to either a dealer or a manufac urer, it is desirable that the grower know about how his wool will grade and about what is the market price for such wool on the larger markets.

Either small or large clips of wool can be consigned to wool commission firms in the larger wool markets to be sold at once or to be stored and sold later. Such firms make a standard charge per pound for their

services. This has been a common method of selling wool, especially on the part of large wool growers, but has not been used extensively in Minnesota.

In recent years, the co-operative marketing of wool, especially from communities in which there are many small flocks of sheep, has come into practice and developed quite rapidly. Because of its non-perishable quality and concentrated form, wool lends itself admirably to co-operative marketing. Practically the entire wool clip of the United States is shorn within a period of about four months. It is only natural that if this wool is all offered for sale by the growers immediately after shearing, the price drops and continues low as long as a large volume of wool is being dumped on the market every week. After the year's wool clip has gone into the hands of dealers or manufacturers, the price will be governed by a number of other factors and may go higher. In fact it usually does go higher and frequently much higher during the rest of the year, but the wool has left the grower's hands and he does not profit by the higher prices. Co-operative marketing, by a plan that keeps the wool in the ownership of the co-operative selling agency until it is sold direct to a manufacturer, and distributes the selling throughout the year, seems to be one that would result in the greatest net return to the grower. This method of marketing wool has been adopted in many states (Minnesota being one of them), during the last few years and is proving successful. Many co-operative wool marketing agencies have a financing plan whereby a part of the value is advanced to the grower upon receipt of his wool at the co-operative warehouse, the rest of the money being forwarded when the wool is sold. Thus the grower can get part of the return on his wool soon after shearing and yet benefit by a rise in price later in the year should such a rise occur before his wool is sold. Regardless of which method is used, however, the grower can expect a good price only by offering a good product.